

The indicated allowability of claims 5-6 is withdrawn in view of the newly discovered reference(s) to Salles. Rejections based on the newly cited reference(s) follow.

Specification

The disclosure is objected to because of the following informalities: Figures 8(a) and 8(b) should be described in the Brief Description of the Drawings. For example, on page 5, line 5, after “invention” insert - - Fig.8(a) shows a cell plate with a large orifice in the middle. Fig.8(b) shows a cell plate with a plurality of thin rectangular plates arranged in a row. - -

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 8-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 8, lines 2-3, the term “the members” lacks proper antecedent basis. It appears that it should cite - - the disk-shaped members - - .

In claim 9, it is unclear how the preamble is related to the body of the claim. The preamble cites a non-rotating member, yet the body of the claim cites an etching chamber, rods and disk-like members. It is also unclear how the wherein clause manipulatively limits the non-

rotating member. Claim 9 is thus unclear since the non-rotating member itself is not clearly cited.

In claim 9, line 6, the term "in place of" is not clear. Do the rods substitute for the disk-like members?

Claims 10-12 fails to cure the indefiniteness of their base claim, and are therefore also rejected.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 5-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Salles et al (US 4,113,543).

Salles discloses an etching apparatus (Fig.2) comprising:

an etching chamber 13 filled with an etching solution (col.3, line 48- col.4, line 1); and
a plurality of rods 11,12 rotatably supported in contact with outer peripheries
("sidewalls" col.2, lines 5-11) of a plurality of disk-shaped members 14 to rotatably hold the
members in a state where the plate surfaces of the members face each other,

wherein a non-rotating member 15 is arranged in a position between the members held by
the member holding means/plurality of rods.

As to claim 6, Salles discloses that the etching apparatus comprises support columns 15 (as depicted in Fig.2, the part of the fork from which the teeth project) fixed parallel to the rods, wherein the non-rotating member is fixed to the support columns (since the teeth of fork 15 are fixed to the wall of the chamber).

Allowable Subject Matter

Claims 1-4, 13 are allowed.

Claims 7-8, 10-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and if amended to overcome the 35 USC 112 rejection.

The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to disclose or suggest a non-rotating member has a disk shape or a surface area 95-105% of the surface area of the disk-shaped members, as in the context of claims 7-8.

The closest prior art, Salles and Erk, fail to disclose or suggest a non-rotating member has a disk shape or the cited surface area. Salles discloses a fork-shaped member 15, not a disk-shaped member. Erk teaches an etching apparatus that comprises an etching chamber 12, 49 with a plurality of rods 52a-52d that rotatably support a plurality of disk-shaped members 50 (col.5, lines 9-16). Erk teaches that a disk-shaped member (dummy wafers 54,56, col.5, lines 32-34) that comprises the same surface area as the disk-shaped members may be inserted in between the rotating disk-shaped members and the chamber wall (col.5, lines 34-37) in order to promote a more uniform and constant flow of etchant between each disk-shaped member 50 (col.7, lines 36-41). However, the disk-shaped member is not a non-rotating member that is in between the

Art Unit: 1792

disk-shaped members, as in the context of claims 7-8. There is also no motivation to combine Salles and Erk because of the different manners of etching processes being conducted.

Response to Arguments

Applicant's arguments with respect to claims 5-6 have been considered but are moot in view of the new ground(s) of rejection. Claims 8-12 are also rejected under 35 USC 112, 2nd paragraph because the scope of the claims are unclear.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited art shows methods of etching while holding members with plate surfaces facing each other.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anita K. Alanko whose telephone number is 571-272-1458. The examiner can normally be reached on Mon-Fri until 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571-272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1792

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anita K Alanko/
Primary Examiner
Art Unit 1792